REVISED INTERNATIONAL NOTATION FOR LATEX HARVEST TECHNOLOGY

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IRRDB

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The International Rubber Research and Development Board
260, Jalan Ampang, 50450 Kuala Lumpur, Malaysia
Tel: 6(03)-42521612; 6(03)-92063750, Fax: 6(03)-42560487
E-mail: irrdb@streamyx.com
Website: www.irrdb.net

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1. K.R. Vijayakumar*
Liaison Officer (Latex Harvest Technology),
International Rubber Research and Development Board and
Director (Training), Rubber Board, Kottayam 686 009, India.
Email: vijayakumar@rubberboard.org.in; vijayakumar.rrii@gmail.com

2. Eric Gohet
CIRAD, Montpelier, France
Email: eric.gohet@cirad.fr

3. K.U. Thomas
Rubber Research Institute of India, Kottayam 686 009, India
Email: kuthomas@rubberboard.org.in

4. Wei Xiaodi
Chinese Academy of Tropical Sciences, Hainan, P R China
Email: xdwei490901@126.com

5. Sumarmadji
Indonesian Rubber Research Institute, Indonesia
Email: rubbersp@indosat.net.id; balitsp@indosat.net.id

6. Lakshman Rodrigo
Rubber Research Institute of Sri Lanka,
Dartonfield, Agalawatta, Sri Lanka.
Email: laksh@sltnet.lk

7. Do Kim Thanh
Rubber Research Institute of Vietnam,
177 Hai Ba Trung street, P.O. Box 070,
District 3, Ho Chi Minh City, Vietnam
Email: dkthanh07@gmail.com

8. Pichit Sopchoke
Songkhla Research Centre,
Kanjanavanich Road, Amphoe Hatyai, Songkhla, Thailand.
Email: pichit@doa.go.th

9. K. Karunaichamy
Rubber Research Institute of India, Kottayam 686 009, India
Email: karunai@rubberboard.org.in

10. Mohd Akbar Md. Said
Deputy Director General, Malaysian Rubber Board,
Kuala Lumpur, Malaysia.
Email: akbar@lgm.gov.my

* Corresponding author

ABSTRACT

Tapping notation that was revised by Lukman in 1983 is revised again. Rainguarding and gaseous stimulation have been incorporated as new items. For tapping period of less than a year, it is shown exactly from starting month to ending month. Number of tappings realized against the possible maximum number of tapping days is shown as a fraction. Similarly actual number of stimulations given against the scheduled number is also shown as a fraction. Changes have been brought about in the expressions for cut length and frequency of tapping. Use of arrows for expressing directions of tapping cuts and for change of tapping have been changed to more convenient ones. The terminology, 'exploitation technology' is changed to 'latex harvest technology'.

It is now more than 25 years since notations for tapping systems for latex harvest were revised (Lukman, 1983). Major changes were brought about in the notations at that time. However, there is some reluctance among many scientists and estate managers in accepting the new notations. They continue to use the old notations. Time has proved that some changes are needed in the notations for tapping systems, stimulation, etc. Advent of gaseous stimulation technology, increased popularity of rain guarding etc. make it necessary to give abbreviations to these also (Vijayakumar, 2007). Some of the systems like puncture tapping are no more in use and hence can be kept as such without revision. Some of the notations for tapping also needed some modifications. Taking stock of the above mentioned situation the existing tapping notations are revised.

There is criticism on the continued use of terminologies of exploitation and tapper (IRRDB workshop on Exploitation Technology, 2003). Vijayakumar (2007) suggested the term latex production technology in place of exploitation technology. However, appropriate terminology to substitute the term tapper is still elusive (Vijayakumar, 2007).

The revised notations for tapping systems are presented. Since this has to be a reference material, the entire notations including unchanged ones are given. Wherever necessary, explanations for changes made are given in parenthesis.

TAPPING NOTATIONS

Tapping is the action to open the latex vessels in the bark of a rubber tree. The tapping notation is a series of letters, numbers, symbols and punctuations describing the length and type of tapping cut, direction of tapping, sequence and frequency of tapping in certain period of time. It also includes notation for stimulation such as type of stimulant, concentration and volume of stimulant used, method of application, frequency of applications, number of applications in a year, etc. Gaseous stimulation and rain guarding are shown by new notations.

Symbol of cut

Cut tapping is the operation in which a thin shaving of bark is excised for extraction of latex. The symbol for type of cut is denoted by a capital letter or capital letter followed by small letter.

Examples

S	=	Spiral cut
C	=	Circumference (unspecified) cut
Sc	=	Small cut (<S/4 and > 5 cm cut)
Mc	=	Mini cut (cut length of 5 cm and less)

Terminologies of V cut (V) and reduced spiral cut (S/R) are excluded.

Length of tapping cut

Length of tapping cut, except for small cut and mini cut, denotes the relative proportion of the trunk circumference that is embraced by the tapping cut and does not refer to actual length. However, in the case of small cut and mini cut, length is not expressed relatively but directly in centimeters. (The terminology of short tapping cuts can continue to be used for tapping cuts of less than half spiral and up to quarter spiral)

Examples

Old				New
S	=	one full spiral cut	=	S/1
1/2S	=	one half spiral cut	=	S/2
1/4S	=	one quarter spiral cut	=	S/4
1/3S	=	one third spiral cut	=	S/3
3/4S	=	three foruth spiral cut	=	3S/4
S/R 8	=	small cut of 8 cm	=	Sc 8
Mc2	=	mini cut, the length of cut is 2 cm	=	Mc 2

(Fractions were removed to make notations more user-friendly)

Number of cuts

A tapping system with more than one cut of same type may be applied on a rubber tree, either they are tapped on the same tapping day or on alternate tapping days or season.

The number of cuts is represented by a figure before the length of cut notation and a multiplication sign is inserted in between.

Examples

2 x S/2 =	two half spiral cuts
4 x Mc 2=	four mini cuts of 2 cm length

(When tapping cuts are of different type these are indicated by '+' sign or punctuations ';' or ',' depending on the sequence of tapping)

Direction of tapping

Direction of tapping is normally downward. Ever since the last revision upward tapping of short tapping cuts has become more popular. When tapping is downward only, no symbol of direction is used. For upward tapping, the symbol is English alphabet U (capital letter) immediately after the cut notation (without space). When two directions of tapping are being applied on the same tree in both downward and upward directions the symbols D and U are shown together as DU after the cut notation concerned. In combination tapping, the downward direction need not be indicated. Difficulties were experienced in using the symbols of arrow.

Examples

S/2	=	one half spiral cut tapped downward
S/4U	=	one quarter spiral cut tapped upward
2 x S/4DU	=	two quarter spiral cuts one quarter cut tapped downward and the other quarter cut tapped upward.
S/2 + S/4U	=	one half spiral cut tapped downward and one quarter spiral cut tapped upward.

Frequency of tapping

Notation for frequency of tapping describes the interval between tapping expressed as number of days. The other notations of the tapping frequency which may possibly follow this are for practical frequency, periodicity and change over. One letter space is to be left in between notations of the frequency of tapping.

Actual frequency: The notation for actual frequency is denoted as the interval between tappings in days expressed by the letter d followed by Arabic numeral. The symbol slash '/' is omitted as it can denote fraction also.

Examples

Old				New
d/1	=	daily tapping	=	d1
d/2	=	alternate daily tapping (once in two days)	=	d2
d/3	=	third daily tapping (once in three days)	=	d3
d/4	=	fourth daily tapping (once in four days)	=	d4
d/5	=	fifth daily tapping (once in five days)	=	d5
d/6	=	sixth daily tapping (once in six days)	=	d6
d/0.5	=	twice a day tapping	=	d0.5

Practical frequency: Where continuous tapping is broken by a regular day (or days) of rest, a fraction is written after the actual frequency. The fraction showing the 'practical frequency' has a numerator, the number of days tapped in a period, the period being denoted by the denominator.

Examples

d1 2d/3= daily tapping, two days in tapping followed by one day of tapping rest in three days

d2 6d/7= alternate daily tapping, six days in tapping followed by one day of tapping rest in one week

d6 6d/7 = tapping once in six days with one day of tapping rest in one week

d9 6d/7 = tapping once in nine days with one day of tapping rest in one week

If there is no tapping rest in a week, the practical frequency is 7d/7 for all cases of actual frequency.

Examples

d3 7d/7= third daily tapping without any day of tapping rest in a week

If practical frequency is not written after actual frequency, it will be understood that there is no day of tapping rest.

Example

d3 = third daily tapping without any day of tapping rest

[In large estates usually weekly holiday is given. In such cases 6d/7 would indicate that there is no tapping in the entire estate on one day in a week. In the case of high frequency tapping such as daily tapping, due to biological reasons one day of tapping rest is given after tapping for two consecutive days.]

Periodicity

The notation for 'periodicity' may consist of one or more fractions in the time unit of weeks (w), months (m) and years (y). The numerator of each fraction denotes the tapping period while the denominator denotes the length of the cycle (tapping period + tapping rest). Each succeeding fraction in the periodicity notation modifies the period of operation of the previous fraction.

Examples

2w/4 = two weeks in four (two weeks of tapping followed by two weeks of tapping rest)

3m/4 = three month in four (three months of tapping followed by one month of tapping rest)

When the period of tapping is less than 12 months, the full cycle of tapping in a year can be shown in parenthesis after the number of months by writing the starting and closing months separated by a hyphen. This will indicate the actual tapping period and rest periods in a year. As in the old notation, if we write 9 m/12, it will not be clear whether rest is in winter, summer or rainy season. Months may be written in three capital letters.

Old		New
9m/12 =	Annual tapping period for 9 months from June to February with three months of tapping rest during March to May.	= 9m(JUN-FEB)/12
9m/12 =	Annual tapping period for 9 months from March to November with three month of tapping rest from December to February.	= 9m(MAR-NOV)/12

Number of tapping days realized

Due to various reasons it is quite common that tapping does not progress as scheduled. Relative and actual tapping intensities, described later, give correct account of the scheduled intensity and realized intensity. Experience has shown that these values are rarely used. Even when expressed, there are difficulties in comprehending the actual number of tapping days realized. Hence it is suggested that after expressing periodicity, we may show actual number of tapping days realized on a tree as a fraction of the total number of tapping days that would have been possible as per schedule. (This is to be done when results are presented).

Examples

95/104	=	95 tapping days realized against 104 scheduled tapping days
d3 6d/7 95/104	=	third daily tapping, six days in tapping followed by one day of tapping rest, 95 tapping days realized out of 104 possible tapping days in a year.
d2 6d/7 3w/4 9m(MAR-NOV)/12 70/80	=	alternate daily tapping for six days followed by one day of tapping rest for each of three weeks followed by one week of tapping rest during nine months from March to November followed by three months of tapping rest from December to February. Seventy tapping days realized against the maximum possible eighty tapping days.

In the above notations, the full cycle period of the system is 12 months and d2 is called the 'actual frequency' and 6d/7 the 'practical frequency', 3w/4 9m(MAR-NOV)/12 is denoted as 'periodicity' while 70 is the tapping days realized against the possible maximum of 80 tapping days.

Change over system

The tapping of a tree may be done continuously on one panel or on one group of panels tapped on the same tapping day. On the other hand, it can also be done on several panels or on several groups of panels, each tapped on alternate tapping day or in alternate tapping period. The second method called 'change over system' is denoted by the cycle of changes of each tapping panel given in brackets.

The first figure (in brackets) indicates the cycle of change of the first tapping panel and the second figure indicates the cycle of change of the second tapping panel. A

comma is inserted between the cycles of changes of tapping panels. The cycle of changes of tapping is denoted by t (tapping), w (week), m (month) and y (year).

Examples

(t,t)	=	two cuts, each tapped alternatively at every tapping
(w,2w)	=	two cuts, the first cut tapped for one week followed by the second cut tapped for next two weeks
(6m,6m)	=	two cuts, each tapped alternatively at every six month.
(10t,m)	=	two cuts, the first cut tapped in 10 tappings followed by the second cut tapped in one month.
(y, y)	=	two cuts, each cut tapped alternatively every year.

All these are called the 'change over symbols', which follow immediately after actual frequency.

Examples

S/2 d2 (t,t)	=	alternate-daily tapping, two half spiral cuts each tapped alternatively on every tapping day.
S/2 d0.5 (t,t)	=	twice a day tapping, two half spiral cuts tapped alternatively
S/2 d2 (t,t) 9m(MAR-NOV)/12	=	alternate daily tapping, two cuts, each tapped alternatively on every tapping day for nine months during March to November followed by three months of tapping rest.

S/2 d3 (m,m) 6d/7	=	Third daily tapping of two half spiral cuts, each cut tapped in alternate months.
S/2 d3 (6m,6m) 6d/7	=	Third daily tapping of two half spiral cuts, each cut tapped alternatively for a period of six months each
S/2 d3 (y,y) 6d/7	=	Third daily tapping of two half-spiral cuts, each cut tapped alternatively for one year.

In the above cases tapping systems are similar with respect to cut length direction, frequency of tapping, practical frequency, stimulation, rain guarding, etc.

When the tapping systems for the two cuts or two groups of cuts differ with respect to cut length, frequency of tapping, stimulation, rest period, rain guarding etc. separate sets of notations have to be written for each cut or each group of cuts.

When the tapping cut is changed in every alternate tapping, the notations for the two cuts are joined by the punctuation comma (,) with space on either sides.

Example

S/2 d2 6d/7 , S/4 d2 6d/7	=	Two tapping cuts, one half spiral cut and the other quarter spiral cut, each cut tapped alternatively in each tapping day. Frequency of tapping has to be same for both the cuts.

When the change over is after more than one tapping, the notations for the two tapping systems are separated by a semicolon (;) with space on either sides and the symbols for the repetition of change over may be shown in the end of the notations of the second tapping cut.

Examples

S/2 d2 6d/7 ; S/4U d1 6d/7 (w,w) = Two tapping cuts, a half spiral cut tapped at alternate daily frequency for one week changed to a quarter spiral cut tapped upward daily during the next week. The cycle of change over is repeated every week.

S/2 d2 6d/7 ; S/4U d1 6d/7 (m,m) = The change over between the two cuts is once in a month

Similarly, when change over is repeated once in six months, two seasons pf a year or once in a year these can be shown by writing (6m,6m), (9m,3m) or (y,y) in the end of the notations of the second tapping cut.

Example

S/2 d3 6d/7 9m(FEB-OCT) ; S/4U d3 6d/7 3m(NOV-JAN) (9m,3m)

When there is no change over cycle, notations for the two tapping systems may be connected by the symbol for change over (;), without the notation for repetition of change over as (m,m), (6m,6m) etc.

Example

S/2 d3 6d/7 6m(JUN-NOV)/12 ; S/4U d3 6d/7 6m(DEC-MAY)/12

= Half spiral cut tapped downward once in three days for six months from June to November is changed to upward tapping of a quarter spiral cut once in three days for the next six months from December to May.

Combination tapping:

Combination tapping describes the tapping of more than one cut on a tree on the same tapping day.

The notations for the systems are joined by a plus sign (+)

When the tapping systems are similar, notations for one tapping system is multiplied by the number of tapping systems.

Examples

S/2 + S/4U = a half spiral cut tapped downward and a one fourth spiral cut tapped upward on the same tapping day.

S/2 + S/4 = both cuts tapped downward on the same day.

S/2 + S/2 = 2x S/2 = both half spiral cuts tapped downward on the same day.

When tapping of a single half spiral tapping cut on base panel is combined with a quarter spiral upward tapping cut for part of the year, both cuts are tapped on third daily frequency, it may be shown as

S/2 d3 6d/7 + S/4U d3 6d/7 6m(DEC-MAY)/12

Rainguarding

After the last revision of tapping notation, rainguarding has become more popular. Rainguarding is essential for the success of low frequency tapping (Vijayakumar, et al., 2003). However, reports on exploitation are silent on whether tapping was done with rainguarding or not. Absence of this information often leads to confusion. Vijayakumar (2007) proposed that rainguarding may be included in the tapping notation with 'RG' as its notation. 'RG' can be written in parenthesis after the notation of the cut, without any space in between.

Examples

S/2(RG) d3 = a half spiral cut with rainguarding tapped on third daily frequency.

2 x S/2(RG) d3 = two half spiral cuts, both the cuts with rainguarding, both the cuts tapped on the same day at third daily frequency.

S/2(RG) d2 (t,t) = two rainguarded half spiral cuts each cut tapped alternatively at alternate daily frequency.

S/2(RG) , S/2 d2 = Two half spiral cuts, one with rainguarding and the other without rainguarding, tapped at alternate daily frequency.

S/2(RG) , S/4U d2 = One half spiral rainguarded cut tapped downward and another one fourth spiral cut without rainguarding tapped upward alternatively at alternate daily frequency.

S/2(RG) d3 6m(JUN-NOV)/12 ; S/4U d3 6m(DEC-MAY)/12

= a half spiral cut with rainguard tapped downward at third daily frequency for six months from June to November changed to quarter spiral cut without rainguard tapped upward at third daily frequency for the remaining six months from December to May.

PANEL NOTATION

No major revision is made in panel notation. The only change made is the elimination of the word cut for panel. The rest can continue to be same as in Lukman (1983). Panel is the area of bark of the rubber tree in which the tapping cut is located.

Panel notation is the symbol or series of symbols, which describe the panel location and the panel renewal succession of the tapping panels. It is not included in the tapping notation but it should be indicated in tapping descriptions in the materials and methods.

With the introduction of short cuts, panel notations A and B to denote original bark and C and D to denote first renewed bark were changed. The base panel virgin bark, the first renewed and second renewed bark are designated as the base panels by the symbols BO, BI and BII respectively and the sequence of panels are indicated by a number. For the high panel, the letter 'H' is used. The sequence of panel is denoted by a number (Arabic).

The location of panels may be grouped in to those of circular succession and those of vertical succession.

Vertical succession: The panels located above the height of the first opening for cut tapping of clones are called the 'high panels' and denoted by the letter 'H' (high). The panels formed below this opening are considered the base panels and for them the letter 'B' is used.

Examples

BO-1 = base panel 1

BO-2 = base panel 2

HO-1 = high panel 1

HO-3 = high panel 3

Panel renewal succession: Panel renewal succession in relation to the progress of tapping is considered for 'virgin bark' and 'renewed bark'. Virgin bark is the bark which has not been tapped yet, while renewed bark is the bark which has re-grown after tapping. Virgin bark is denoted by the alphabet 'O', the first renewed bark by the roman numeral I and the second renewed bark by II.

Examples:

BO - 1 = the first panel on virgin bark of the base panel

BI - 3 = the third panel on first renewed bark of the base panel

BII - 2 = the second panel on the second renewed bark of the base panels

HO - 4 = the fourth panel on virgin bark of the high panels.

Note: The standard method of showing location of panels in a front sectional view of the tree trunk is shown below.

Height of opening

HO-2	HO-1
BO-2	BO-1

HO-1	HO-2
BI-3	BI-2	BI-1

HO-1	HO-2	HO-3	HO-4
BI-2		BI-1	

STIMULATION NOTATIONS

The stimulation notations are not separated from the tapping notations. The two should be presented together as complete notation with a full stop inserted between them. The notations of stimulation are grouped into three units in the order stimulant, application and periodicity. Instead of full stops space must be given between these units to differentiate them clearly.

Stimulant

Active ingredient: The active ingredient of stimulant must be expressed in the notation with a specific code but for some stimulants, the notations should be the same as the chemical names.

The code consists of two or three capital letters which are taken from the technical name of the stimulant. Ethylene gas represented by code ETG is newly introduced. (Stimulants such as ethad, 2, 4-D and 2, 4, 5-T which are not in use are excluded)

Examples

ET	=	Ethephon
ETG	=	Ethylene gas
CaC_2	=	Calcium carbide
ST	=	Stimulant unspecified

The remaining description will mostly be restricted to stimulation with ethephon and ethylene gas. Notations for stimulation with ethephon are almost the same as proposed earlier (Lukman, 1983). Notations for stimulation using ethylene gas are new.

Concentration: Cconcentration of the active ingredient of the stimulant in the formulation used should be noted immediately after the code of the stimulant. The notation of the active ingredient and the concentration of the stimulant are presented consecutively.

Examples

ET10%	=	Stimulated with 10% of ethephon
ETG99%	=	Stimulated with 99% ethylene gas.

Application

Method of application: The method of using stimulant is indicated by a symbol describing the place of its application on the tree. The symbol consists of two letters, a capital letter followed by small letter.

Examples

Pa	=	Panel application (on the renewing bark close to the tapping cut)
Ba	=	Bark application (on scraped bark to be tapped)
La	=	Lace application (on the tapping cut over tree lace)
Ga	=	Groove application (on the tapping cut after removal of tree lace)
Ta	=	Tape or band application (on scraped bark in puncture tapping and upward tapping)
Sa	=	Soil application

There are different methods of ethylene gas application like RRIMFLOW, REACTORRIM, G-Flex etc. These have not been included in the notation. The method of application of ethylene gas can be described in the text of the report.

Quantity of formulation: Quantity of formulation applied at one time is expressed by its weight in grams (g) or by its volume in milliliter (ml) and written in the notation without 'g' or 'ml'.

Width of band: Width of band on which the stimulant is applied is measured in centimeters (cm) and written in notation without 'cm'. In groove and lace applications, a dash (-) is put in the notation.

Method of application, quantity of formulation and width of band form the application unit.

Periodicity

Frequency of application: Frequency of stimulant application is stated in days (d), weeks (w) or months (m). When frequency of application is irregular it may be indicated by the symbol '*' superscripted above period (y).

Number of applications per period: Total number of applications of stimulant per period is denoted by a number. The period is usually expressed in year (y). Actual number of stimulations done per period against the scheduled number may be shown as a fraction after scheduled frequency of application, with the scheduled number in the denominator

Examples

8/y	=	eight applications per year
3/y	=	three applications per year
8/y(m)6/8	=	eight stimulations in a year at monthly interval, 6 stimulations done against the 8 scheduled

The number of applications and frequency of application, forms the 'periodicity unit'. Stimulant unit, application unit and periodicity unit are presented consecutively with 'separation space'.

In the case of gaseous stimulation, the space for method of application can be filled with a dash (-). Details of method of application can be given as footnote. Frequency and number of application can be expressed in the same manner as for ethephon (Vijayakumar, 2007). Width of application is not applicable and hence can be presented by a dash (-).

Complete stimulation notations:

Examples

ET5.0% Pa2(2) 8/y(m)	=	stimulated with 5% ethephon, panel application, 2 g of stimulant per application on 2 cm band, eight applications per year applied at monthly interval.
ET5.0% Pa2(1) 16/y(2w)12/16	=	stimulated with 5% ethephon, panel application, 2 g of stimulant per application on 1 cm band, sixteen applications per year applied at fortnightly interval, 12 stimulations done against the scheduled 16 stimulations
ET5.0% Pa2(2) 3/y*	=	stimulated with 5% ethephon, panel application, 2 g of stimulant per application on 2 cm band, three applications per year at irregular intervals.

ETG100% -30- 24/y(2w) = stimulated with 100% ethylene gas, 30 mg per application, 24 applications per year applied at fortnightly interval.

Tapping intensity

Tapping intensity can be calculated from various components of the tapping notation to provide parameter for comparison and evaluation. The parameter of 'relative intensity' was previously popular for comparing tapping systems. However, it has very little application now. Considering low frequency tapping of half spiral cuts with stimulation at tapping interval of one week and gaseous stimulation of small cut to get high yield, it is infact latex harvest intensity, rather than tapping intensity, that is relevant. However, there is no way to calculate or quantify harvest intensity. Complete notation for tapping system with stimulation gives a realistic picture. Actual intensities of tapping and stimulation can be shown as fractions of scheduled intensities as described earlier. However, the equations for relative and actual tapping intensities are described below.

Relative Intensity: The relative intensity is expressed in percentage of the standard systems.

S/2 d2 or S/4 d1 = 100%

To calculate the relative intensity, multiply four times the ratio of the length of tapping cut (expressed in fraction) and the tapping interval with 100.

Example

$$1/2S\ d/2 = \frac{1}{2} \times \frac{1}{2} \times 400 = 100\%\ \text{(old)}$$

$$S/2\ d2 = 4 \times \frac{1}{2} \times \frac{1}{2} \times 100 = 100\%\ \text{(new)}$$

$$1/2S\ d/3 = \frac{1}{2} \times \frac{1}{3} \times 400 = 66.6\%\ \text{(old)}$$

$$S/2\ d3 = 4 \times \frac{1}{2} \times \frac{1}{3} \times 100 = 66.6\%\ \text{(new)}$$

Actual intensity: The actual intensity is the amount of tapping actually realized and expressed in percentage. To calculate the actual intensity, multiply four times the length of tapping cut in the formula by the average number of tappings (tapping days per year) and divide by the total number of days in the given period (year).

Example

$$S/2\ d2 = 4 \times \frac{1}{2} \times \frac{167}{365} \times 100 = 92\%$$

$$S/2\ d6 = 4 \times \frac{1}{2} \times \frac{50}{365} \times 100 = 27\%$$

Examples of Complete notations

S/2 d3 6d/7 . ET2.5% Pa2(2) 8/y(m)= half spiral cut without rainguard tapped downward at third daily frequency, six days in tapping followed by one day of tapping rest, stimulated with ethephon of 2.5% active ingredient with 2 g of stimulant applied on panel on 2 cm band, eight applications per year at monthly interval (scheduled tapping system with scheduled ethephon stimulation).

S/2(RG) d3 6d/7 95/104 . ET2.5% Pa2(2) 8/y(m)6/8

= Half spiral rain guarded cut tapped downward at third daily frequency, six days in tapping followed by one day rest, with 95 tapping achieved against 104 scheduled tapping days per year. Stimulated with 2.5% ethephon with 2g of the stimulant applied on panel on 2 cm band, eight scheduled applications per year at monthly interval. Six stimulations could be done against the scheduled eight per year.

S/2(RG) d3 6d/7 6m(JUN-NOV)/12 . ET2.5% Pa2(2) 4/6m(6w) ;
S/4U d3 6d/7 6m(DEC-MAY)/12 . ET.5.0% La1(-) 9/6m(3w) (6m,6m)

= Half spiral rainguarded cut tapped downward at third daily frequency, six days in tapping followed by one day of tapping rest, 6 months of tapping from June to November, stimulation with 2.5% ethephon with 2g of the stimulant applied on panel on 2 cm band, 4 application in six months at interval of 6 weeks between applications, changed to one fourth spiral cut tapped upward for the next six months from December to May, stimulation with 5.0% ethephon with 1.0 g of stimulant applied on lace, 9 applications in six months at interval of 3 weeks between applications. The cycle is repeated.

S/4 d4 6d/7 9m(MAR-NOV)/12 . ET2.5% Pa1(2) 18/9m(2w) + S/4U d4 6d/7 9m (MAR- NOV)/12 . ET5% La1(-) 18/9m(2w) = Two quarter spiral cuts , one tapped downward and the other tapped upward, once in four days on the same tapping day, six days in tapping followed by one day of tapping rest , nine months of tapping from March to November followed by three months of rest, both cuts stimulated, the lower cut with 2.5% ethephon , 1.0 g of stimulant applied on the panel on 2cm band,18 applications in nine months at fortnightly interval, while upward tapped cut is stimulated with 5.0% ethephon, 1.0 g of stimulant applied on the lace, 18 applications in nine months at fortnightly interval.

(While expressing data number of tappings realized may be shown as fraction of maximum number of tapping days possible.)

Latex Harvest Technology in place of Exploitation Technology

During the international workshop on exploitation technology that was held in December 2003, suggestion came that it is high time that the terminologies 'exploitation' and 'tapper' have to be renamed.

There are many suggestions to rename exploitation as latex harvesting. However, exploitation is a science by itself which involves making the tree to produce more latex than normal, without adverse effect on the tree. Physiological studies like latex diagnosis are also involved. Hence it is suggested that like crop harvesting, we may use the term **latex harvesting**. Thus exploitation technology can be renamed as **latex harvesting technology**. As we are unable to change the word tapping, it may not be possible to rename the word tapper.

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References

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PREAMBLE

One of the major recommendations of the first IRRDB workshop on Latex Harvest Technology held in India during December 2003, was revision of International Tapping Notations. The previous revision was made in 1983 by Lukman. There was also demand to change the terminologies of exploitation and tapper. As a follow up of the above recommendations, IRRDB Liaison Officer for latex harvest technologies, Dr. K.R. Vijayakumar, prepared the draft for revising the notations. The draft was presented in the second IRRDB workshop on latex harvest technology that was held at Kuala Lumpur in May 2008. In the workshop there was a special meeting to discuss the proposed draft. For finalizing the revision, the meeting constituted the following committee of scientists from member countries.

1. Datuk Dr. Abdul Aziz SA Kadir, Secretary General, IRRDB : Chairman
2. Dr. K.R. Vijayakumar, IRRDB Liaison Officer : Convener
3. Dr. Eric Gohet, CIRAD, France : Member
4. Dr. Sumarmadji, IRRI, Indonesia : Member
5. Dr. Mohd Akbar Abdul Gaffar, MRB, Malaysia : Member
6. Prof. Wei Xiaodi, CATAS, China : Member
7. Dr. K.U. Thomas, RRII, India : Member
8. Dr. Do Kim Thanh, RRIV, Vietnam : Member

The draft was circulated to all the committee members and their comments were sought. Based on the feedback, the final draft was prepared and was again discussed in a meeting of experts on 14 October 2008 at Kuala Lumpur. The following were present.

1. Datuk Dr. Abdul Aziz SA Kadir, Secretary General, IRRDB : Chairman
2. Dr. K.R. Vijayakumar, IRRDB Liaison Officer : Convener
3. Dr. Mohammed Akbar Md. Said, MRB, Malaysia : Member
4. Dr. J.M. Esbach, CIRAD, FRANCE : Member
5. Dr. Do Kim Thanh, RRIV, Vietnam : Member

The revision made was finalized in the meeting. The final version of the revised notation was presented in the meeting of the Board of Directors of the IRRDB on 16 October 2008. The Board approved the revision with the modification that the terminology of Latex Production Technology may be changed to Latex Harvest Technology. The board has instructed to print the final revision by December 2008 and to circulate to all member countries. It was also decided to publish the revised notations in the Journal of Rubber Research, Malaysia.

The International Rubber Research and Development Board
260, Jalan Ampang, 50450 Kuala Lumpur, Malaysia
Tel: 6(03)-42521612; 6(03)-92063750, Fax: 6(03)-42560487
E-mail: irrdb@streamyx.com
Website: www.irrdb.net